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Cultural Adequacy of the Care Dependency Scale for Older Persons in Egypt

A Delphi Study

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Purpose: The aim of this study is to determine the cultural adequateness of the Arabic version of the Care Dependency Scale (CDS), an internationally used instrument to measure care needs by either self-reports or external assessment.

Method: A Delphi study in two rounds about the Arabic version was performed with 37 panelists in Cairo. Acceptance of CDS items was rated on a 4-point Likert-type scale. **Results:** Agreement among panelists in the second round was found for 11 CDS items, but 2 items had decreased acceptance after rephrasing and 2 were rejected. **Discussion:** Rejected items seem to reflect a heterogeneous perception in the target population. Despite some limitations, the CDS is a promising instrument to detect care needs among older Egyptians.

Keywords: care dependency; older people; Arabic translation; Delphi study; Egypt

Ageing is an emerging phenomenon in Arab countries. The Arab Human Development Report (United Nations Development Program, Regional Bureau for Arab States, 2002) indicates that in the Arab region life expectancy at birth between 1950 and 1955 was 40.5 years for men and 42.6 years for women, in comparison to 2000, when it had reached 62.6 years for the male and 65.2 years for the female population. For 2050, this life expectancy is estimated to reach 75.2 years for men and 79.4 years for women (Economic and Social Commission for Western Asia, 2007). An increasing number of people aged 60 and older will be associated with an increase of disabilities and ensuing needs for nursing care. Based on data from the Global Burden of Disease Study about severe levels of disability and the calculation of population projections, Harwood, Sayer, and Hirschfeld (2004) predicted an increasing number of dependent people in the Middle East. They demanded,

however, improved data collection on this issue. Such data are required for an appropriate planning of nursing services for older people in these countries. There has been a scarcity of such information. The most extensive study in the recent decade about this topic was performed by Nandakumar, El-Adawy, and Cohen (1998) in Egypt. Based on a countrywide household survey including people older than 50, they came to the conclusion that 8.27% of this group suffered from at least one functional limitation as measured by the Activities of Daily Living Scale by Katz and Akpom (1976). The items of this scale refer to the abilities of bathing, dressing, transferring, toileting, feeding, and walking as perceived by the interviewed person. Although widely used as predictors of the need for long-term care, they are unlikely to provide a complete picture of biopsychosocial needs among the elder population. It is thus important to use an instrument that reflects a nursing perspective if one

wants to obtain information about the care needs of older people in Arab countries.

Background

The current literature uses the term *care dependency* with different meanings such as functional limitations (Challis et al., 2000), needs (Dijkstra, 1998), and staff workload (Adomat & Hewison, 2004). In a recent concept analysis, Boggatz, Dijkstra, Lohrmann, and Dassen (2007) tried to clarify the concept and defined *care dependency* as a subjective, secondary need for support in the domain of care to compensate for a self-care deficit. Based on an analysis of the existing literature, they concluded that this definition can be shared by both caregivers and care recipients. Furthermore, they argued that functional limitations are only a necessary antecedent but not an equivalent of care dependency. Only if a particular subjective need is affected by a functional limitation will the respective person feel the need to get support from a caregiver. For example, people who have no desire to leave home will not demand support to do so. If older people reduce their needs in this way, their care dependency will be affected as well.

An instrument that meets the criteria of the above definition and that can be used as an empirical referent of this concept is the Care Dependency Scale (CDS; Dijkstra, 1998). It was developed in the Netherlands and is based on the nursing theory of Henderson (1991). The instrument provides a framework in which human needs with regard to nursing care can be assessed and consists of 15 items that have to be rated on a 5-point Likert-type scale. It has been translated into 12 different languages. Content validity of the original version was determined by Dijkstra (1998) with the help of a Delphi study. Eight of the existing translations have been psychometrically tested and showed good reliability and validity (Dijkstra, Smith, & White, 2006). Factor analysis for all tested versions proved that all items were affected by the same underlying care dependency concept and showed strong similarities across the different countries (Dijkstra et al., 2006). It seems thus worthwhile to develop an Arabic version of this instrument as a first step to obtain relevant information about care needs among the older population in Arab countries.

According to the underlying theory of Henderson (1991), the basic human needs measured by the scale are universal. In their concept analysis, Boggatz et al. (2007) followed this assumption, but they added that the perception of such needs in a concrete situation depends as well on how caregivers and care recipients define the

nature of required support in a process of social negotiation that is embedded in a cultural value system shared by both sides. They provided the example of religious support, which was described in one study (Boggatz & Dassen, 2006) as an important part of care for caregivers in a Christian geriatric home in Upper Egypt but which may be missing in countries where people are less religious or have different spiritual needs. By its nature, care dependency is universal, but by its particular expression it is culture specific at the same time. For this reason, the concept may serve as a point of reference for cross-cultural comparisons.

As a consequence, the translation of a research instrument that serves as an empirical referent of care dependency has to be meaningful in the target culture to ensure its equivalence to the original version. This is particularly relevant if the instrument was developed in Europe and is to be applied for the first time in a developing country.

A further requirement for the use of the scale is its availability as a proxy and self-assessment instrument. As Martin and Kinsella (1994) pointed out, investigations about disability and morbidity in developing countries commonly rely on self-reported measurements because of reasons of feasibility. On the other side, to obtain data for those who cannot speak for themselves, a proxy assessment is recommendable. To capture the same phenomenon, both versions should use an identical language that is understandable for both care providers and care recipients. In practice, this requires that the formulation of the items remains the same, with the only exception that the questions are asked in the third person ("Does the older person need . . . ?") for proxy assessment and in the second person ("Do you need . . . ?") for self-assessment. The CDS, which is available in self-report and proxy versions, meets this requirement.

Aim

The aim of this study is to determine the cultural adequateness of the Arabic version of the CDS for older people that can be used by both care providers and care recipients either as a proxy or as a self-report version.

Method

Theoretical Considerations

According to Streiner and Norman (2003), the following aspects are important for the cultural adequateness of translated instruments: (a) item equivalence, which

determines whether the respective items are relevant and acceptable in the target population; (b) semantic equivalence, which determines whether the formulation of the items is understandable in the target culture and reflects the same meaning as in the original version; and (c) operational equivalence, which is concerned with the question of whether the mode of administration is suitable for the target population. For example, in developing countries with high illiteracy rates, a written questionnaire may not be a suitable way to approach people to participate in a study.

Study Design

As a first step, the English version of the CDS was translated into Arabic and then back translated to English by an independent translator to confirm the adequateness of translation. To determine the cultural adequateness of the translated draft, a Delphi study was performed. This technique allows a systematic and structured collection of judgments from people who are considered to be experts in the respective field of interest (H. P. McKenna, 1994). The researcher obtains a range of subjective opinions about the given subject, as panelists have to give their statements independently from each other. The collected suggestions are summarized, evaluated, and returned to the panelists with a new questionnaire to obtain their opinion about the revised suggestions (Polit & Beck, 2008). This procedure consists of two or more rounds until a high degree of consensus is achieved.

Sampling Procedure and Ethical Considerations

As 62 of the 113 registered nursing homes of Egypt are situated in Cairo (Ministry of Social Affairs, 2005), this city was chosen as the place of study. To identify panelists from different fields of work, 10 nursing homes, 3 home care services, and 4 geriatric departments in hospitals were contacted to obtain the opinion of staff members with sufficient expertise in older people's care. To be included as an expert in this research, the panelist had to meet two criteria: (a) Egyptian nationality, to ensure that he or she was familiar with the particularities of the Egyptian culture and language and had an insider perspective, and (b) 2 years of work experience in the field of geriatric care, to ensure familiarity with the problems of older people. Being a nurse was not a requirement, as in Egypt nurses working in geriatric care are rather scarce. Most nursing homes in this country are run by either medical doctors or supervisors with limited or no training in nursing. Furthermore, advancements of nursing care for older people are mainly because of the

initiative of medical doctors. For example, the first home care service in Cairo was established by a member of this profession. The same concerns the authorship of the only available teaching book for older people's care in Egypt (Care with Love, 2006). To be included as a medical doctor required either a specialization in geriatric medicine or an important contribution to the development of nursing care for older people in Egypt such as establishing a nursing home. The panelists were contacted by the first three authors, who worked in the field of geriatric care in Egypt at the time of this study. Personal communication is crucial in the Egyptian context to obtain any kind of collaboration.

An attempt to obtain the opinion of older care recipients about the questionnaire failed, as all of the 10 contacted elderly referred the questions about the items to their own particular situation but not to the care needs of older people in general. The mobility item, for example, was important for them only if they personally suffered from impaired walking. This became clear through the interviews, which had to be held orally as these older people were not able to fill out the questionnaire because of health reasons.

Research approvals were obtained from all care-providing institutions with staff members who participated in this study. Staff members who met the inclusion criteria received a written questionnaire that explained study goals, the procedure of data collection, and the estimated time of commitment. Anonymity of data and the right to withdraw were ensured. Informed consent was implied in returning the completed questionnaire. This assumption was warranted, as noncooperation could not result in any negative effect on those who refused to respond (Polit & Beck, 2008).

Data Collection

The language used in this study was Arabic. To evaluate the CDS, panelists were asked at first to rate the importance of each item of the scale; that is, whether the respective questions concerned a need that was relevant for older people in Egypt. Ratings were made on a 4-point Likert-type scale that ranged from *very important* to *unimportant*. A 4-point scale was chosen to force a decision in one direction. If 75% of the panelists would at least partially agree on a particular item, this item could be considered acceptable for the Egyptian context.

Furthermore, panelists were asked to judge whether the wording of each item could be easily understood by older Egyptians and to suggest alternative formulations if necessary. A third question asked whether there was any important item missing according to the panelists'

point of view. The fourth question inquired whether the wording of the five degrees of care dependency that are applicable to each item of the CDS resulted in meaningful and easily understandable differences. Finally, every panelist was asked to give his or her general impression about the scale.

Data Evaluation

To evaluate the ratings about the relevance of the items, percentage agreement was calculated. To analyze the answers to the open questions, the comments about the items of the CDS were grouped separately for each item to gain a systematic overview of the different ideas. Comparison of these statements allowed reducing the collected information to the central ideas. According to the comments from the first round, a second draft of the questionnaire was developed and back translated into English to assess its compatibility with the original version. In the second round, panelists received the reformulated questionnaire and were asked the same questions as in the first round. The evaluation procedure remained the same as well.

Results

Altogether, 45 local experts were contacted in the first round, of which 37 responded. In the second round, 33 of the initial 37 panelists agreed to participate a second time. Table 1 shows the sample composition for both rounds according to the professional background of the panelists. In both rounds, medical doctors were the majority. Panelists labeled as care supervisors worked in either a nursing home or a home care service, and all except one had received 3 months of training in geriatric care previous to their work. Only one professional nurse could be identified in the contacted institutions and agreed to participate. This section presents, first, the summary of the panelists' responses to the open questions and the changes applied to the CDS according to these suggestions. After this, we show how the relevance of each item of the CDS was rated by the panelists in both rounds of the Delphi study.

General Impression

Several panelists commented that the wording of the questionnaire was too abstract and thus not understandable for people with limited education. They suggested providing examples for each item. One panelist came up with the idea of adding a picture to every item to illustrate the intended meaning. Furthermore, panelists made

Table 1
Sample Composition by Professional Background

	Round 1	Round 2
Medical doctors	29	26
Care supervisors	7	6
Nurses	1	1
Total	37	33

clear that older people, if they have to respond to the self-report version, might need someone to read the questionnaire for them because of impaired vision or illiteracy. With regard to the general wording of the items, some panelists wanted to formulate the items as direct questions and to ask about the felt need for support instead of abilities to perform certain activities.

With regard to the five different degrees of care dependency that are applicable to each item of the CDS, most panelists found difficulties differentiating among all five levels. Some suggested restricting the scale to a 3-point Likert-type scale, which might be easier to handle. This, however, would have limited the comparability of results gained from the Arabic version with results of the other existing translations. The only solution was a careful rephrasing of the degrees. To indicate the degree in the middle, an expression of colloquial Egyptian Arabic was used, which can be translated approximately as "fifty-fifty."

To illustrate how the items were rearranged according to these general suggestions, Figure 1 shows as an example the CDS dressing-undressing item in Arabic, together with the respective translation and the picture to facilitate its understanding for illiterate people.

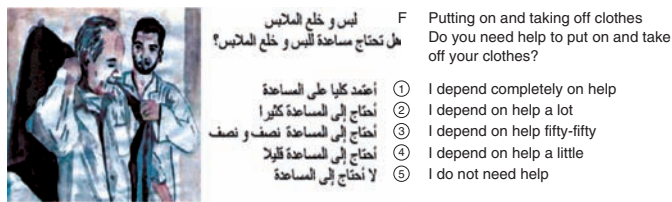
Comments on the Items

Panelists identified different semantic problems with regard to the items. According to their comments, they were either offensive or interchangeable, they received different interpretations, or they were considered to be irrelevant. Table 2 shows the 15 items of the CDS sorted according to the kind of problem that affected them and the suggested solutions for their rephrasing.

The two items that received minor comments were "hygiene" and "getting dressed and undressed." This allowed the conclusion that they were perceived as unproblematic. Hence, no changes were applied, except the general suggestions mentioned above.

With regard to the continence item, some panelists felt that a direct question about this issue might be perceived as impolite or offensive for older people. They suggested using instead the expression "to enter and use the toilet."

Figure 1
Care Dependency Scale Dressing–Undressing
Item in the Arabic Self-Assessment Version



Items perceived as mutually interchangeable were “body position” with “mobility” and “communication” with “social relationships.” In both cases, panelists suggested specifying the meaning of each item to allow for a better differentiation (see Table 2).

A further group of items received a variety of interpretations. “Avoidance of danger” was perceived by many panelists as too broad in meaning, as it might refer to several dangers such as theft, fire, falls, or other accidents. Each of these events might be evaluated differently, as its occurrence does not depend only on a limitation of physical abilities but also on factors in the environment. Frail older people, for example, might be afraid of falls but feel safe from thefts as attentive neighbors provide protection. In response, the item was restricted to the aspect of accidents. Eating and drinking was understood by some panelists as including the preparation of food as well. Other comments added that poorer people might interpret this question as a need for financial support to buy the necessary food. By rephrasing, the meaning of the item was restricted to the ingestion of liquids and food.

“Control of body temperature” was interpreted in three different ways: (a) the need to measure body temperature, (b) the older people’s ability to perceive changes of the environment’s temperature, (c) the older people’s ability to protect themselves against hot and cold weather. In response, the meaning was restricted to the third aspect by rephrasing the item. “Daily activities” caused similar misunderstandings. Some respondents interpreted it as spare-time activities, others as a daily program of activities in a geriatric home. To achieve a meaningful distinction to recreational activities, the question was restricted to household activities and illustrated by some examples. Finally, the “sense of rules and values” item not only was interpreted in different ways but also caused controversial reactions. Some asked whether this question referred to the knowledge of the Egyptian law; others claimed that nobody needed help to

understand common values as these were obvious in Egypt. One panelist asked whether such a question was suitable for self-evaluation (“Would older people who participate in a study admit that they lack appropriate manners?”), and one even saw the item as offensive if it was asked to an older person. According to the suggestion of one panelist, the item was specified as a need of help to direct one’s social behavior.

Finally, three items were considered as irrelevant or less relevant for older people. Comments concerning the item “maintaining day and night rhythm” argued that older people have no obligations to work and hence do not need to maintain a specific rhythm for being awake and sleeping. With regard to “recreational activities,” some panelists perceived that the performance of such activities would depend on the level of education of the older people. Illiterate elderly, for example, might be less inclined to read books or to go to the theater. Other panelists claimed that the typical recreation of older Egyptians consists of religious practice such as praying or listening to tapes with religious contents and suggested changing the item in spiritual needs. In a similar way, some panelists claimed that older people have poor abilities to acquire new skills and would thus feel no need to get support with regard to learning. Others considered this need as relevant only in the case of rehabilitation. All three items clearly depend on varying subjective needs. Deleting or changing the items as suggested, however, would have restricted the comparability of the Arabic scale with other versions of the CDS. As recreational activities and learning needs depend on individual interests, providing concrete examples for the respective items was not advisable. Specifying, for example, recreational activities by playing cards or listening to music would not address those who are not interested in these activities and might produce a misleading idea about the general concept in their mind. Some panelists provided suggestions of rephrasing these items to further clarify their possible relevance (see Table 2).

Suggestion for Missing Items

Panelists provided several suggestions for needs not covered by the CDS. Although all mentioned needs were clearly relevant for older people, some of the suggestions, such as need for financial support, seemed to be outside the responsibilities of caregivers.

Two suggestions mentioned several times concerned taking medicine and spirituality. Taking medicine without help is apparently a common problem among older people, and supporting patients in this regard is an acknowledged nursing task. For this reason, it was introduced as a new

Table 2
Care Dependency Scale Items by Semantic Problems and Suggested Solutions

Semantic Problem		Original Item	Suggested Solutions
Unproblematic Items	Hygiene	The extent to which I am able to take care of my personal hygiene unaided	—
	Getting dressed and undressed	The extent to which I am able to get dressed and undressed unaided	—
Offensive Items	Continence	The extent to which I am able to control the discharge of urine and feces voluntarily	Use the expression “to enter and use the toilet”
Interchangeable Items	Body posture	The extent to which I am able to adopt a position appropriate to a certain activity	Specify the meaning as finding a correct position while sitting or lying
	Mobility	The extent to which I am able to move about unaided	Specify the meaning as walking or moving to another place
	Communication	The extent to which I am able to communicate	Specify the meaning as the ability to express oneself and understand others
	Contact with others	The extent to which I am able to appropriately make, maintain, and end social contacts	Specify social relationships as relationships with friends and relatives
Items with different interpretations	Avoidance of danger	The extent to which I am able to ensure my own safety unaided	Restrict the meaning to the avoidance of accidents and provide examples
	Eating and drinking	The extent to which I am able to satisfy my need for food and drink	Restrict the meaning to ingestion of food; exclude the meaning of preparing food
	Body temperature	The extent to which I am able to protect my body temperature against external influences unaided	Restrict the meaning to protection against hot and cold weather; exclude the meaning of measuring body temperature and perception of temperature changes
	Daily activities	The extent to which I am able to structure daily activities within the facility unaided	Restrict the meaning to household activities such as cooking and washing clothes; exclude the meaning of spare time activities and daily program in nursing homes
	Sense of rules and values	The extent to which I am able to observe rules by myself	Restrict the meaning to a need of help to direct one’s social behavior; exclude the meaning of knowing Egyptian laws
Items considered as not relevant	Day–night pattern	The extent to which I can maintain an appropriate day–night cycle unaided	Rephrase as, “Do you need help to sleep at night and stay awake during the day?” to clarify the meaning
	Recreational activities	The extent to which I am able to participate in activities outside the facility unaided	Rephrase as, “Do you need help with the activities in your spare time?” to clarify the meaning
	Learning ability	The extent to which I am able to acquire knowledge and/or skills and/or to retain that which was previously learned unaided	Rephrase as, “Do you need help to learn something new and to keep the information?” to clarify the meaning

item in the scale. Spirituality seemed to be of particular importance for some panelists. As one of them put it, “This questionnaire does not cover the Eastern way of thinking with regard to praying, fasting, or going to the mosque or church.” The decision to add this item is in line with the underlying theory of Henderson (1991), who perceived spirituality as one of the basic human needs to be covered by nursing care.

Relevance of the Items

Table 3 shows the percentage agreement of both the first and second rounds. As said above, 75% of the panelists had to agree at least partially on an item to consider it as relevant. According to this criterion, 9 of the 15 items were accepted in both rounds. Of these items, 4 found slightly less agreement in the second round, 5 slightly

Table 3
Agreement per Item in Percentages

Care Dependency Scale Item	First Round (<i>n</i> = 37)		Second Round (<i>n</i> = 33)	
	Full Agreement (%)	Full and Partial Agreement (%)	Full Agreement (%)	Full and Partial Agreement (%)
Eating and drinking	94	97	96	96
Elimination	91	100	90	100
Body position ^a	43	72	81	96
Mobility	78	100	93	100
Day–night rhythm ^b	51	89	48	78
Dressing–Undressing	64	86	81	96
Body temperature	43	75	48	69
Hygiene	75	97	72	100
Avoidance of danger ^a	64	89	69	87
Communication	64	91	54	90
Contact with others ^a	45	78	33	66
Rules and values	35	48	27	57
Daily activities	45	78	63	87
Recreation	18	62	39	78
Learning	35	59	24	48
Medication	—	—	93	96
Spirituality ^b	—	—	48	75

a. One or two missing values in the first round.

b. One missing value in the second round.

more agreement. The body position and recreation items met the required criterion in the second round after rephrasing, whereas the body temperature and contacts with others items succeeded in the first but failed in the second round. The rules and values and learning items were not considered relevant for older people in both rounds. The medication and spirituality items, which were added in the second round according to the suggestions of some panelists, found immediate agreement.

Discussion

Agreement on 9 items in both rounds seems to indicate that the core of the CDS is acceptable for Egyptians. Body position was the item with the highest increase of agreement in the second round. Several panelists found that the initial wording did not differentiate the item from mobility. Rephrasing apparently clarified that the item concerns an aspect of its own importance. In a similar way, it is likely that changing recreational activities from “to participate in activities outside the facility” to “activities in your spare time” contributed to the increased importance of this item in the second round.

The two items that did not meet the criterion of acceptance in the second round were perceived in the first round as having an unclear meaning. In the case of body temperature, the restriction of the three interpretations

given by the panelists may have contributed to the loss of relevance. Some of the panelists may have agreed on an interpretation that was excluded after reformulation. According to the comment of one panelist, the narrow meaning of protection against hot and cold weather may have been judged as less important, as hypothermia is not perceived as a serious threat in the Egyptian climate. The same may be the case with contact with others. Initially, panelists complained that they could not differentiate it from communication, and they might have rated the importance of contact with others based on the assumption that it referred to the former item. Restricting the item to relationships with friends and family members was perceived by one panelist as strange, as according to his perception such relationships do not represent a problem in the Egyptian culture. Although more clarity seems to have contributed to less importance, it is not recommendable to return to the initial wording, as ratings on this ground are likely to be misleading.

The rejection of the rules and values and learning items in both rounds can be explained by the comments provided by the panelists. With regard to rules and values, their main argument was that older adults would know social manners, except those who suffered from dementia and were as a consequence unable to reply to such a question. The initial version of the CDS was in fact developed to rate patients in psychogeriatric nursing

homes and institutions for the mentally handicapped (Dijkstra, 1998), and one may raise the question of whether this aspect of care is relevant as well for other settings such as home care services. The panelists' comments provided an argument to be cautious about this item if care recipients are to be asked to rate themselves.

With regard to learning, the comments of some panelists may be indicative of an underlying idea about old age that is different from the concept of active aging implied in the CDS. Panelists who claimed that older people need no support for learning (as they are not inclined or unable to do so) seem to perceive old age as a period of rest and decline of cognitive abilities. This, however, does not mean that the concepts of aging in Egypt and in the West are totally different. If 47% of the panelists found the item important in the second round, it cannot be said that the rejection was complete. It is more appropriate to speak about a disagreement. But also in Western countries, active aging is not the only existing theory about old age. In fact, it is a rather new idea. It was not until 1997 that it was announced as a paradigm shift in gerontology (M. A. McKenna, 2003). Disengagement theory, which considers patterns of withdrawal as desired by the older person, is an opposite approach of understanding aging that still shapes services for the aged in Western countries (M. A. McKenna, 2003). Seen in this context, the findings of this study may indicate just a difference in degree with regard to the dominance of ideas about old age. As a consequence, the item should not be removed. It is, however, likely that at least some older people responding to the CDS will perceive no need for support as they consider these needs to be irrelevant for their age. The ensuing limitation is that the scale will not allow a complete differentiation between a lack of abilities and a lack of need in this case.

The same problem concerns the recreational activities item, although it finally found acceptance. Panelists pointed out that some older people may lack the idea of spare time and thus feel no need to receive help in this matter. This is in line with the results of a study by Hunt (1986), who found that the concept of enjoying oneself was not known among poorer Egyptian women, as living on the edge of poverty meant a life taken up by work that allowed only subsisting. Such findings suggest that social strata in Egypt may have different cultural attitudes that shape their care needs accordingly. Deleting the item, however, would provide no solution, as the scale should allow a comparison between different strata of Egyptian society, of which at least some are familiar with the idea of spare time. Clearly, the scale does not allow for every item differentiating between those who do not express a need for help because they still have the

abilities to perform the required activities independently and those who do not feel a need for support because they simply do not have the basic need. It is, however, beyond the scope of the CDS to capture such differences. The instrument was designed to measure a felt need for support. To determine for which reasons such a felt need does or does not exist is not the task of the CDS and requires additional measurements. Users of the instrument should have this limitation in mind and use the scale in combination with other measurements to identify factors that influence felt care needs.

Adding new items does not limit the comparability of the Arabic version with other versions of the CDS, as additional items may simply be omitted for the purpose of cross-cultural studies. The use of expressions from colloquial Egyptian Arabic in the Arabic version suggested here is not likely to restrict the applicability of this questionnaire in other Arabic countries. Because of its distribution through the mass media, Egyptian Arabic is widely understood in the Arabic world.

Limitations of the Study

The main limitation of this study is that no judgment about the CDS from the care recipients' perspective could be obtained. Understandably, these people referred questions concerning the importance of care needs to their own problems. Including their judgments in this study would have produced a bias because their rating was a self-assessment of their own care needs. For this reason, the evaluation of the scale had to rely on the opinion of experts who put themselves in the place of care recipients.

A further limitation is the limited number of nurses and people with training in geriatric care among panelists. As a consequence, the contacted experts had a different professional background from the nurses who participated in Dijkstra's (1998) first Delphi study in the Netherlands. The judgment of the Egyptian experts was not informed by nursing theories, as it can be assumed for Dutch nurses. This may have contributed to the lower agreement for some items. Furthermore, the high percentage of medical doctors among the panelists may have produced a neglect of aspects that are more important for nurses. One should, however, consider the important contributions of the medical profession to the advancement of geriatric nursing care in Egypt. At the same time, we did not encounter more professional nurses in the care-providing institutions, although colleges of nursing at several universities in Egypt include a module of geriatric nursing (Gadallah, 2007). The only alternative to medical doctors would have been people employed as caregivers

who had only limited education and had received some on-the-job training according to the instructions of either medical doctors or care supervisors from a different professional background. As a consequence, these caregivers were not likely to contribute to this study with an expertise similar to professional nurses. In summary, the chosen panel represents the expertise in geriatric care that is currently available in Egypt.

Conclusion

It was the aim of this study to determine the cultural adequateness of the Arabic version of the CDS. With regard to item equivalence, 11 of the original 15 items found acceptance in the second round and appear to suit the Egyptian understanding of care dependency. Three items seem to reflect concepts that are differently understood in at least some parts of the target population, and one item should be used with caution in self-assessments. Semantic equivalence could be ensured by rephrasing the items according to the suggestions of the panelists. Formulating the items as questions and adding pictures is likely to improve operational equivalence. It is furthermore suggested to read the questions for older people who are illiterate or suffer from impaired vision. In summary, the current version appears to be a promising instrument for the detection of care needs among older Egyptians.

Implications for Future Research and Practice

To finally decide about the equivalence of the Arabic and the English versions of the CDS, measurement equivalence has to be determined. The Arabic version of the CDS developed in this study should thus be submitted to psychometric testing. For the other existing versions of the scale, results of psychometric testing have suggested that all items are affected by the same underlying care dependency concept and are related to what Henderson (1991) called fundamental human needs that appear in every patient–nurse relationship, independent from cultural background (Dijkstra et al., 2006). Similar results for the Egyptian version would support this assumption and demonstrate the usefulness of the scale for cross-cultural comparisons. Another important aspect concerns the relationship between the CDS and the Activities of Daily Living Scale, which has been used in previous studies in Egypt (Nandakumar et al., 1998). Findings from the United States (Desai, Lentzner, & Dawson Weeks, 2001) suggest that functional limitations are a precondition for care dependency but that not every limitation is translated

into a need for support by older people. To provide appropriate care, it is crucial to identify factors that prevent or trigger the expression of care needs among older Egyptians. Such factors might be cultural attitudes as mentioned by the panelists but also economical aspects. At least with regard to medical care, research indicates an underutilization of services among Egyptians of lower-income groups (Berman, Nandakumar, & Winnie, 1998). With regard to care dependency, these questions need to be investigated. Their answers will help with the planning of care services that suit the different social groups of older people in Egypt.

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